COURSE OUTLINE: OEL842 - FOREST PATHO THEORY

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Course Code: Title	OEL842: FOREST PATHOLOGY - THEORY
Program Number: Name	
Department:	DISTANCE EDUCATION
Semesters/Terms:	20S, 20F, 21W
Course Description:	This course provides students with an understanding of how various stresses affect normal growth and development of trees, introduces particular diseases which impact on tree health and wood quality and provides the theory for recognizing signs and symptoms of pathological conditions.
Total Credits:	1
Hours/Week:	1
Total Hours:	16
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
General Education Themes:	Science and Technology
Course Evaluation:	Passing Grade: 50%, D
Books and Required Resources:	Tree Disease Concepts by Paul D. Manion Publisher: Prentice Hall Career and Technology Edition: 2nd ISBN: 0139294236

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Explain the role of forest pathology and describe the anatomy, function and inter-relationships of specified structures in a healthy tree.	-Define the term forest pathology. -Describe the importance of forest pathology with regards to forest ecosystem health and forest structure in general. -Explain the importance of forest pathology to the forest products industry. -Describe the basic cell and tissue structures and their functions in a healthy tree, with particular emphasis on photosynthesis and cell growth. -Trace the movement of water from soil to leaves through the various cells and tissues involved.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Define and describe forest pathology basic terms and concepts.	-Characterize a healthy tree. -Define the scope of forest pathology as a science. -Define terms: pathology, pathogen, disease, necrotic, hypertrophy, atrophy and chlorosis. -Differentiate between disease and injury. -Describe the general characteristics of abiotic, biotic and decline diseases.

	-Define terms: vector, host, disease, injury, infectious, abiotic, biotic, decline.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Demonstrate an understanding of the significance of various abiotic factors in relation to tree health.	-Describe the effects of temperature extremes. -Describe the effects of soil moisture extremes. -Describe the effects of nutrient deficiencies. -Describe the effects of soil compaction and other soil disturbances. -Describe the effects of atmospheric pollutants. -Describe the effects of mechanical damages (wind, snow, ice, hail, lightning, animal, sun, human).
Course Outcome 4	**Learning Objectives for Course Outcome 4**
Demonstrate an understanding of the significance of various biotic factors in relation to tree health.	-Give examples of detrimental nematodes, viruses, mycoplasma, bacteria, parasitic flowering plants and fungi. -Describe the disease development and signs and symptoms, and control methodologies of select species which are representative of foliar diseases, rusts, cankers, vascular wilts, wood decays, wood stains and root diseases. -Describe the benefits of mycorrhizal associations.
Course Outcome 5	**Learning Objectives for Course Outcome 5**
Demonstrate an understanding of the significance of decline disease factors in relation to tree health.	-Define the term decline disease and describe the controversy surrounding this subject. -Describe the Three Factors Model associated with decline disease. -Describe the disease development, signs and symptoms and control methodology for maple decline.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	50%
Online midterm exam	35%
Research project	15%

Date: March 9, 2020

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.